

WHAT IS CLAIMED IS:

1. A data demodulation apparatus for receiving data of an arbitrary one of a plurality of data rates and demodulating the receive data making use of blind transport format detection, comprising:

Viterbi decoding means for successively Viterbi decoding the receive data beginning with the top bit;

end bit position discrimination data extraction means for successively extracting end bit position discrimination data which are obtained at end bit positions of the data rates when the receive data are successively Viterbi decoded beginning with the top bit by said Viterbi decoding means; and

data rate discrimination means for discriminating the data rate of the receive data based on the end bit position discrimination data successively extracted by said end bit position discrimination data extraction means.

2. A data demodulation apparatus according to claim 1, further comprising end bit position discrimination data storage means for storing the end bit position discrimination data successively extracted by said end bit position discrimination data extraction means.

3. A data demodulation apparatus according to claim 1, wherein said Viterbi decoding means Viterbi decodes a plurality of bits of the receive data in one step.

4. A data demodulation apparatus according to claim 3, wherein, if a bit of the receive data which may possibly be an end bit position bit is not the last bit of the plurality of bits which are Viterbi decoded in one step by said Viterbi decoding means, then said Viterbi decoding means first Viterbi decodes those of the receive data to be Viterbi decoded in one step from the top of the receive data to the bit which may possibly be an end bit position bit, and then Viterbi decodes the remaining one or ones of the receive data up to the last bit of the plurality of bits.

5. A data demodulation apparatus according to claim 4, further comprising Viterbi-decoded data storage means for storing data Viterbi decoded by said Viterbi decoding means, and wherein, if the bit of the receive data which may possibly be an end bit position bit is not the last bit of the plurality of bits which are Viterbi decoded in one step by said Viterbi decoding means, then when said Viterbi decoding means Viterbi decodes those of the receive data to be Viterbi decoded in one step from

the top of the receive data to the bit which may possibly be an end bit position bit, said Viterbi-decoded data storage means is inhibited from storing the Viterbi decoded receive data.

6. A data demodulation apparatus according to claim 1, wherein the end bit position discrimination data include a maximum path metric value, a minimum path metric value, a zero-state path metric value and zero-state path memory data.

7. A data demodulation method for a data demodulation apparatus which receives data of an arbitrary one of a plurality of data rates and demodulates the receive data making use of blind transport format detection, comprising:

a Viterbi decoding step of successively Viterbi decoding the receive data beginning with the top bit;

an end bit position discrimination data extraction step of successively extracting end bit position discrimination data which are obtained at end bit positions of the data rates when the receive data are successively Viterbi decoded beginning with the top bit by the process of the Viterbi decoding step; and

a data rate discrimination step of discriminating the data rate of the receive data based on the end bit

position discrimination data successively extracted by
the process of the end bit position discrimination data
extraction step.